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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,666	09/30/2003	Michael Kurth	1690.1006	2039

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EXAMINER

DOLE, TIMOTHY J

ART UNIT	PAPER NUMBER
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2858

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/673,666	KURTH, MICHAEL	
	<b>Examiner</b>	<b>Art Unit</b>	
	Timothy J. Dole	2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 10 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____  | 6) <input type="checkbox"/> Other: ____                                     |

## DETAILED ACTION

### *Claim Objections*

1. Claim 10 is objected to because of the following informalities: claim 10 recites the limitations "said push button section" on lines 1-2, and "the digital potentiometer" on line 8, both of which lack antecedent basis. For the purposes of examination it is assumed that claim 10 depends on claim 9, which would correct the objections. Appropriate correction is required.
2. Claim 13 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only, and/or, cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Clement et al. (USPN 5,577,099)

Referring to claim 1, Clement et al. discloses a capacitive amplifier for detecting and amplifying an electrical tone conducted by one of a group of wires in order to identify and trace a particular wire, the capacitive amplifier suppressing noise signals

having a predetermined fundamental noise frequency and suppressing noise signals having frequencies that are harmonics of said predetermined fundamental noise frequency, said capacitive amplifier comprising: a probe (fig. 2 (30)) for being placed adjacent a wire under test (column 5, lines 9-11); an input terminal (fig. 2 (32)) coupled to the conductive probe for receiving an input signal therefrom (column 5, lines 9-12); a suppression unit (fig. 2 (42)) coupled to the input terminal for receiving the input signal and for suppressing said noise signals (column 5, lines 3-33); and an amplifier (fig. 2 (58)) coupled to the suppression unit to amplify the noiseless output signal (column 6, lines 12-14).

Referring to claim 2, Clement et al. discloses the device as claimed characterized in that said suppression unit being arranged for receiving the input signal and for providing a time-delayed signal of the input signal and to subtract the time-delayed signal from the input signal, the time-delayed signal being delayed by a delay period substantially equal to the inverse of the noise frequency to be suppressed or an integer multiple thereof (column 5, line 32 – column 6, line 11).

Referring to claim 3, Clement et al. discloses the device as claimed characterized in that said suppression unit comprising an analog-to-digital (A/D) converter coupled to the input terminal for converting the input signal into a digital signal; a memory coupled to said A/D converter for storing digital signal values; a subtraction unit for receiving time-delayed digital signal values from said memory and for subtracting time-delayed digital signal values from digital signal values; and a digital-to analog (D/A) converter coupled to said subtraction unit (column 14, lines 1-26).

Referring to claim 4, Clement et al. discloses the device as claimed wherein said subtraction unit is part of a central processing unit (CPU) or its functions are performed by said CPU and said CPU is arranged for reading out digital signal values from said memory after a storage time, said storage time being identical with said delay time, and for subtracting these time-delayed digital signal values from actual input digital signal values (column 14, lines 1-31).

Referring to claim 5, Clement et al. discloses the device as claimed, further in including a high pass filter coupled to said input terminal (column 8, lines 25-28).

Referring to claim 6, Clement et al. discloses the device as claimed wherein said high pass filter is comprised of a differential amplifier (fig. 8A (148)), wherein the positive input port of said differential amplifier is coupled to said input terminal and the negative input port of said differential amplifier is coupled to the output of a low pass filter (column 8, lines 28-34) and the input of said low pass filter is coupled to said input port (column 8, lines 15-34).

Referring to claim 8, Clement et al. discloses the device as claimed wherein said high pass filter is part of a preamplifier stage comprising a preamplifier and said high pass filter (fig. 8A)).

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 7 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Clement et al.

Referring to claim 7, Clement et al. discloses the device as claimed except wherein said low pass filter has a cut-off frequency of about 300 Hz.

It would have been obvious to one skilled in the art at the time of the invention to use a cut-off frequency of about 300 Hz, for the purpose of attenuating unwanted signals whereby making it easier to detect a desired signal.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clement et al. in view of Komninos et al.

Referring to claim 9, Clement et al. discloses the device as claimed except for a volume tuning section coupled to said input terminal, said volume tuning section comprising a digital potentiometer and a push button section for switching on said capacitive amplifier and for actuating said digital potentiometer.

Komninos et al. discloses a signal detector comprising a volume tuning section coupled to said input terminal, said volume tuning section comprising a digital potentiometer (column 13, lines 20-23) and a push button section (fig. 1 (24), (28) and (30)) for switching on said capacitive amplifier and for actuating said digital potentiometer (column 6, lines 52-59).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the volume tuning and push button sections of Komninos et al.

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into the device of Clement et al. for the purpose of providing better control of the device whereby making tones on wires more easy to identify and trace.

8. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clement et al. in view of Ott et al.

Referring to claims 11 and 12, Clement et al. discloses the device as claimed except wherein said probe includes a probe tip having an electrically non-conductive or high-resistive surface and wherein said probe tip is made of carbon fiber material or from anodized aluminum.

Ott et al. discloses a device for identifying a metal object comprising a probe tip having an electrically non-conductive or high-resistive surface made of carbon fiber material or from anodized aluminum (column 6, lines 60-67).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the probe tip of Ott et al. into the device of Clement et al. for the purpose providing a durable probe tip that will not cause the desired signal to be modified in any way.

***Allowable Subject Matter***

9. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to show the state of the art with respect to probes for wires under test.

USPN 5,909,110 to Clement et al.: This patent shows an apparatus for identifying and tracing wires and includes a volume control circuit.

USPN 5,703,928 to Galloway et al.: This patent shows an apparatus for sampling signals in telephone wires, which cancels noise signals using a capacitive probe.

USPN 4,998,059 to Nigon et al.: This patent shows a capacitive probe for locating a wire in a group of wires.

USPN 4,506,210 to Chase: This patent shows a capacitive probe for locating a wire in a group of wires.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Dole whose telephone number is (571) 272-2229.

The examiner can normally be reached on Mon. thru Fri. from 8:00 to 4:30.

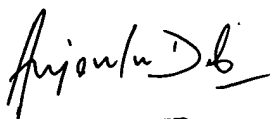
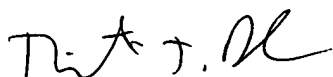
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJD



**ANJAN DEB**  
**PRIMARY EXAMINER**